

AMENDMENTS TO THE DRAWINGS

The attached "Replacement Sheets" of drawings include changes to Figures 11-15. The attached "Replacement Sheets," which include Figures 11-15, replace the original sheets including Figures 11-15.

Attachment: Replacement Sheets

REMARKS

Claims 1-3, 5-8, and 10-14 are now pending in the application. By this paper, Claim 4 has been cancelled without prejudice or disclaimer of the subject matter contained therein. The following remarks are believed to be fully responsive to the outstanding Office Action and are believed to place the application in condition for allowance. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

DRAWINGS

The drawings stand objected to for certain informalities. Applicant has attached revised drawings for the Examiner's approval. Applicant has designated Figures 11-15 as "Prior Art" as required by the Examiner. In addition, Applicant has cancelled Claim 4 without prejudice or disclaimer of the subject matter contained therein. Now-cancelled Claim 4 called for a plurality of support members being formed in a groove. No new matter has been added. Reconsideration and withdrawal of the objection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 3-4, 8, 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by US 2002/0121941 to Sakata et al.

This rejection is respectfully traversed.

Independent Claim 1 calls for a piezoelectric vibration piece including a pair of vibration arms that are formed of a piezoelectric material and extend in a horizontal

direction from a base. See Specification at pg. 16, Paragraph [0066]. In addition, independent Claim 1 calls for a groove with a bottom provided in a length direction of each of the vibration arms and a support member provided to cross the groove in a width direction to integrally connect portions of the vibration arm separated by the groove in the width direction. See Specification at pg. 16, Paragraphs [0069-0070] and FIG. 3.

Independent Claim 8 calls for a piezoelectric device accommodating a piezoelectric vibration piece, whereby the piezoelectric vibration piece includes a pair of vibration arms extending in a horizontal direction from a base. See Specification at pg. 16, Paragraph [0066]. In addition, independent Claim 8 calls for a groove with a bottom provided in each of the vibration arms and extending in a length direction of the corresponding vibration arm and a support member crossing the groove in a width direction of the corresponding vibration arm and to integrally connecting portions of the vibration arm separated by the groove in the width direction. See Specification at pg. 16, Paragraphs [0069-0070] and FIG. 3.

Independent Claim 10 calls for electronic equipment utilizing a piezoelectric device that accommodates a piezoelectric vibration piece, whereby the piezoelectric vibration piece includes a pair of vibration arms laterally extending from a base and a groove with a bottom that is provided in each of the vibration arms. See Specification at pg. 16, Paragraphs [0066-0070] and FIG. 3. The groove extends in a length direction of the corresponding vibration arm with a support member provided to cross the groove in a width direction of the corresponding vibration arm. See Specification at FIG. 3. The support arm integrally connects portions of the vibration arm separated by the groove in

the width direction, wherein upon vibration of the piezoelectric vibration piece, a clock signal is derived. See Specification at pg. 16, Paragraphs [0069-0070], pg. 22, Paragraph [0095], and FIG. 3.

Independent Claim 11 calls for a piezoelectric vibration piece including a base and at least one vibration arm formed of a piezoelectric material and extending from the base. See Specification at pg. 16, Paragraph [0066]. The vibration arm includes a first surface having a first groove formed therein and a second surface opposite the first surface, whereby the second surface has a second groove formed therein. See Specification at FIG. 3. A support member spans each of the first and second grooves, wherein a bottom of each of the first and second grooves extends substantially orthogonally relative to the support member and is connected to the support member by an integral member angling therebetween and traversing a width of the grooves. See Specification at pg. 16, Paragraphs [0068-0070] and FIG. 3.

Each of independent Claims 1, 8, 10, and 11 call for a vibration arm (34) having a groove (44). See Specification at pg. 16, Paragraph [0066]. The grooves are provided with a bottom section (46) and do not penetrate through the arm. See Specification at Paragraph [0068]. Each groove is separated by a support section (45) formed integrally with the bottom section resulting in integral side sections (45a, 45b) being integrally formed with the bottom section. See FIGS. 3 and, reproduced below in relevant part.

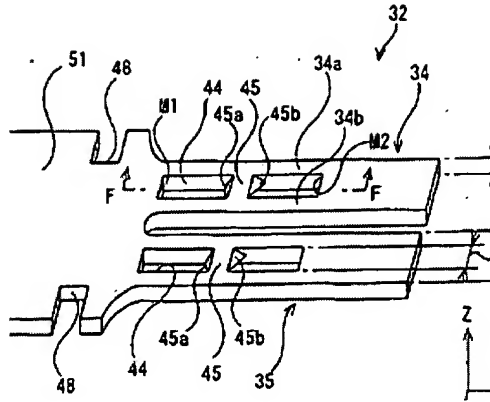


FIG. 3

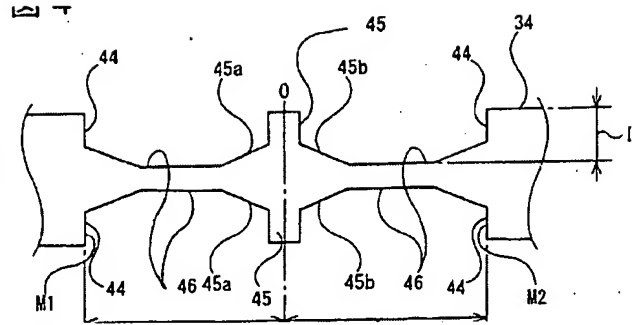


FIG. 4

Sakata fails to teach a groove portion having a bottom surface. Rather, Sakata teaches a pair of vibration arms (121, 122) having through grooves (123, 124). See Sakata at Paragraph [0058]. The “through” grooves are formed *through* each vibration arm and therefore fail to include a bottom section. See Sakata at FIGS. 1 and 2, reproduced in relevant part below.

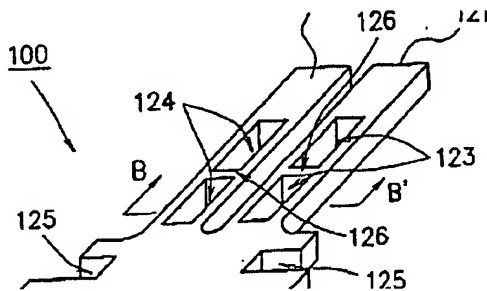


FIG. 1

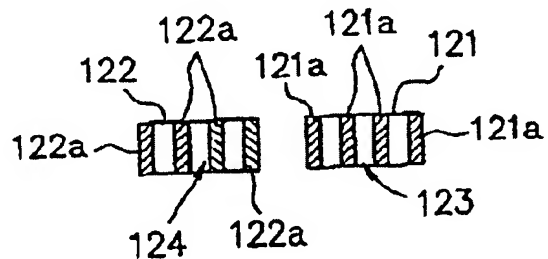


FIG. 2

Because Sakata fails to teach a groove having a bottom surface formed in a vibration arm, Applicant respectfully submits that Sakata fails to teach each and every element of the present invention. Accordingly, Applicant respectfully submits that independent Claims 1, as well as Claims 3 and 5-10, dependent therefrom, are in

condition for allowance. Therefore, reconsideration and withdrawal of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 2, 5-7 and 11-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata et al. (US 2002/0121941).

Claims 5-7 and 12-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata et al. (US 2002/0121941).

These rejections are respectfully traversed.

Because Sakata does not disclose a groove having a bottom surface formed in a vibration arm, and none of the cited references cures this deficiency on Sakata, Applicant's invention is not taught or suggested by the prior art and reconsideration and withdrawal of the rejection is respectfully requested.

In this manner, it is believed that independent Claims 1, 8, 10, and 11, as well as Claims 2-7 and 12-14, respectively dependent therefrom, are in a condition for allowance in light of the art of record. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

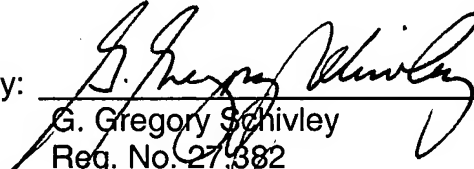
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office

Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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